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Total Number of Pages in This Submission

27

Application Number

10/531,038

Filing Date

April 12, 2005

First Named Inventor

Joseph P. KENNEDY, Jr.

Art Unit

Unassigned

Examiner Name

Unassigned

Attorney Docket Number

GRA26 009

**ENCLOSURES (Check all that apply)**

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**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	DUANE MORRIS LLP		
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Date	September 29, 2005	Reg. No.	46,285

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ATTORNEY DOCKET NO.: GRA26 009

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the Patent Application of Joseph Kennedy, Jr., et al.

Serial No.: 10/531,038

Art Unit: Unassigned

Filed: April 12, 2005

Examiner: Unassigned

Title: SYSTEM AND METHOD OF OPERATION FOR NETWORK OVERLAY  
GEOLOCATION SYSTEM WITH REPEATERS

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
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Sir:

The below listed documents are identified for consideration in the examination of the subject application.

**U.S. PATENTS AND PATENT APPLICATION PUBLICATIONS:**

<u>Pat./Pub. No.</u>	<u>Patentee(s)</u>	<u>Issue/Pub. Date</u>	<u>Examiner Initials</u>
6,922,170	Alexander, Jr.	July 26, 2005	
6,845,240	Carlson, et al.	January 18, 2005	
6,839,539	Durrant, et al.	January 4, 2005	
6,834,234	Scherzinger, et. al.	December 21, 2004	
6,782,264	Anderson, et al.	August 24, 2004	
6,553,322	Ignagni	April 22, 2003	
6,501,955	Durrant, et al.	December 31, 2002	
6,477,161	Hudson, et al.	November 5, 2002	

6,470,195	Meyer	October 22, 2002
6,334,059	Stilp, et al.	December 25, 2001
6,311,043	Haardt, et al.	October 30, 2001
6,295,455	Fischer, et al.	September 25, 2001
6,212,319	Saleh, et al.	April 3, 2001
6,188,351	Bloebaum	February 13, 2001
6,144,711	Raleigh, et al.	November 7, 2000
5,870,029	Otto, et al.	February 9, 1999
5,506,863	Meidan	April 9, 1996
5,465,289	Kennedy, Jr., et al.	November 7, 1995
5,317,323	Kennedy, Jr., et al.	May 31, 1994
4,783,744	Yueh	November 8, 1988
US20040043775	Kennedy, Jr., et al.	March 4, 2004
US20020094821	Kennedy, Jr.	July 18, 2002
US20030190919	Niemenmaa	October 9, 2003

The below listed documents are enclosed for consideration in the examination of the subject application.

**FOREIGN PATENTS AND PUBLICATIONS:**

<u>Patent No.</u>	<u>Patentee(s)</u>	<u>Issue Date</u>	<u>Examiner Initials</u>
JP60-347529	NEC Corp.	December 22, 1994	

**Relevance of Foreign Language Documents**

**1. JP60-347529**

An English translation of the listed document has been provided.

**OTHER PUBLICATIONS:**

Leshem, et al., "Array Calibration in the Presence of Multipath," IEEE Transactions of Signal Processing, Vol. 48, No. 1, pp.53-59, January 1, 2000.

Ziskind, I., Wax, M., "Maximum likelihood localization of multiple sources by alternating projection", IEEE Trans. Acoust., Speech, Signal Process. vol. 36, no. 2 (Oct. 1988), 1553-1560;

Van Der Veen, M, Papadias, C.B., Paulraj, A.J., "Joint angle and delay estimation" IEEE Communications Letters vol. 1-1 (Jan. 1997), 12-14;

Schmidt, R.O. "Multiple emitter location and signal parameter estimation" Proc. RADC Spectrum Estimation Workshop, (Mar. 1999), 243-258;

Young-Fang Chen, Michael D. Zoltowski "Joint Angle and Delay estimation of DS-CDMA communication systems with Application to Reduced Dimension Space-time 2D Rake Receivers", IEEE Transactions on Signal Processing;

Paulraj, A.J., Papadias, C.B., "Space-Time Signal Processing for Wireless Communications", IEEE Signal Processing Magazine, vol. 11 (Nov. 1997), 49-83;

Paulraj, A.J., Papadias, C.B., "Space-Time Signal Processing for Wireless Communications: A Survey" Information System Laboratory, Stanford University;

Haardt, Brunner and Nossek "Joint Estimation of 2-D Arrival Angles, Propagation Delays, and Doppler Frequencies in Wireless Communications, Proc. IEEE Digital Signal Processing Workshop, volume 1, pages 1-4, Bryce Canyon National Park, Utah, Aug 1998.

M. Wax, "Position location from sensors with position uncertainty", IEEE Trans. Aero., Elect. Syst. AES-19, no. 2 (Sept. 1983), 658-662;

D.J. Torrieri. "Statistical Theory of Passive Location Systems", IEEE Trans. Aerosp. Electron. Syst. AES-20, no. 2 (Mar. 1984), 183-198;

Y.T. Chan and K.C. Ho, "A simple and efficient estimator for hyperbolic location", IEEE Trans. Signal Proc. 42, no. 8 (Aug. 1994), 1905-1915;

W.H. Foy. "Position location solutions by Taylor series estimation", IEEE trans Aerosp. Electron. System AES-12, no. 2 (Mar. 1976), 187-194;

R.G. Stansfield, "Statistical theory of DF fixing", Journ. IEE 94, part IIIa (Oct. 1947), 762-770

M.P. Wylie and J. Houtzman, "The non-line of sight problem in mobile location estimation". Proc. IEEE 5th International Conf. on Universal Personal Communications, vol. 2 (Oct. 1996), 827-831;

L.Cong and W.Xuang, "Non-Line-of-Sight Error Mitigation in TDOA mobile location" Proc. IEEE Global Telecommunications conference vol.1 (2001), 680-684;

P.C. Chen, "A non-line-of-sight error mitigation algorithm in location estimating" Proc. IEEE Conf. on wireless Communications Networking, vol. 1 (1999), 316-320;

N.J. Thomas, D.G.M. Cruickshank and D.I. Laurenson, "Performance of a TDOA-AOA hybrid mobile location system" 3G Mobile Communication Technologies Conf. Proc. 1 (Mar. 2001), 216-220

Caffery, J., Jr., et al., "Subscriber Location in CDMA Cellular Networks," IEEE Transactions on Vehicular Technology, Vol. 47, No. 2, May 1998.

Caffery, J., Jr., "A New Approach to the Geometry of TOA Location," IEEE, VTC 2000, pp. 1943-1949.

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